Claims

[c1] 1.A cooling system comprising:
a coolant source;
a coolant supply outlet fluidly connected to the coolant source;
a coolant conduit fluidly connected to the coolant supply outlet and connectable to a welding-type component configured to present an electrode to a weld-type area; and
a sensing device positioned in relative proximity to the coolant supply outlet and configured to provide a component connection status output indicative of connection status of the welding-type component to the coolant supply outlet.

[c2] 2.The cooling system of claim 1 further comprising a controller adapted to electronically communicate with the sensing device and affect circulation of coolant from the coolant source through the coolant supply outlet and the coolant conduit to the welding-type component only when the welding-type component is connected to the coolant supply outlet.

[c3] 3.The cooling system of claim 1 wherein the controller is

further adapted to automatically activate the cooling system to circulate coolant when the welding-type component is activated.

[c4] 4.The cooling system of claim 3 wherein the controller is further adapted to maintain coolant circulation if a temperature of the coolant exceeds a set point temperature.

[c5] 5.The cooling system of claim 4 wherein the controller is further adapted to automatically terminate a welding-type output if a temperature of coolant is outside an acceptable temperature range.

[c6] 6.The cooling system of claim 1 further comprising a coolant return inlet fluidly connected to the coolant conduit to return coolant from the welding-type component to the coolant source.

[c7] 7.The cooling system of claim 1 further comprising a coolant pump, a motor assembly, a heat exchanger, and a fan operationally connected to one another to circulate coolant to the welding-type component.

[c8] 8.The cooling system of claim 1 wherein the sensing device is further configured to provide a component disconnection output upon disconnection of the welding-type component from the coolant supply outlet.

[c9] 9.The cooling system of claim 1 disposed within an enclosure having components to condition raw power into power usable by a welding-type process.

[c10] 10.The cooling system of claim 1 wherein the sensing device includes at least one of a magnetic pick-up device, an electrically conductive coil, a sensor to detect movement of a coolant outlet cover, and a pressure switch designed to output a connection verification signal when engaged by a connecting end of the welding-type component.

[c11] 11.The cooling system of claim 1 further comprising a pressure sensor to provide feedback as to at least one of coolant pressure and coolant flow through at least one of the coolant supply outlet and the coolant conduit.

[c12] 12.A welding system comprising:
a welding torch configured to deliver an electrode to a weld;
a power source connected to the welding torch and designed to condition raw power into a form usable by a welding process;
a cooler connected to the welding torch and designed to circulate coolant to the welding torch; and
a controller configured to detect a connection status of the welding torch to the cooler and regulate the cooler

such that coolant is prevented from circulating if the welding torch is disconnected from the cooler.

[c13] 13.The welding system of claim 12 wherein the cooler includes a torch connection sensor configured to transmit a torch connected signal to the controller when the welding torch is connected to the cooler.

[c14] 14.The welding system of claim 13 wherein the torch connection sensor includes at least one of a magnetic pick-up device, an electrically conductive coil, a sensor to detect movement of a coolant outlet cover, and a pressure switch designed to output a connection verification signal when engaged by a connecting end of the welding-type component.

[c15] 15.The welding system of claim 12 wherein the controller is further configured to repeatedly detect a coolant temperature signal and if coolant temperature exceeds a threshold, transmit a power source shut-down signal to a controller of the power source.

[c16] 16.The welding system of claim 12 wherein the controller is further configured to repeatedly detect a coolant pressure signal and if coolant pressure is outside an acceptable range, transmit a shut-down signal to a controller of the power source.

[c17] 17.The welding system of claim 12 further configured for TIG welding.

[c18] 18.A controller configured to:
detect connection of a welding-type component to a coolant source; and
upon connection, permit circulation of coolant through the welding-type component upon activation of the welding-type component.

[c19] 19.The controller of claim 18 further configured to monitor a pressure of circulation through the welding-type component and if the pressure is at an unacceptable level, provide a detectable output indicative of errant coolant flow.

[c20] 20.The controller of claim 18 further configured to monitor a temperature of coolant through the welding-type component and if the temperature has an unacceptable value, provide a detectable output indicative of errant coolant temperature.

[c21] 21.A welding-type apparatus comprising:
means for cooling;
means for providing welding-type power;
means for outputting welding-type power to an output area;

means for detecting connection of the means for the outputting welding-type power to the means for cooling; and

means for automatically circulating coolant through at least the means for providing welding-type power upon activation of the means for outputting welding-type power only if the means for detecting detects connection of the means for outputting power to the means for cooling.